

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/561, 132
Source: JFNP
Date Processed by STIC: 01/04/2006

ENTERED

CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/561, 132

CRF Edit Date: 01/04/2006
Edited by: DA

___ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

___ Corrected the SEQ ID NO. Sequence numbers edited were:

___ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

___ Deleted: ___ invalid beginning/end-of-file text ; ___ page numbers

___ Inserted mandatory headings/numeric identifiers, specifically:

___ Moved responses to same line as heading/numeric identifier, specifically:

___ Other: Inserted Mandatory Field Identifier



IFWP

RAW SEQUENCE LISTING

DATE: 01/04/2006

PATENT APPLICATION: US/10/561,132

TIME: 12:51:37

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\01042006\J561132.raw

3 <110> APPLICANT: Adams, John W
 4 Connolly, Daniel T
 6 <120> TITLE OF INVENTION: Human G Protein-Coupled Receptor and Modulators
 Thereof For the
 7 Treatment of Cardiovascular Disorders
 9 <130> FILE REFERENCE: 60.US2.PCT
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/561,132
 C--> 11 <141> CURRENT FILING DATE: 2005-12-16
 11 <150> PRIOR APPLICATION NUMBER: 60/480,046
 12 <151> PRIOR FILING DATE: 2003-06-20
 14 <160> NUMBER OF SEQ ID NOS: 12
 16 <170> SOFTWARE: PatentIn version 3.2
 18 <210> SEQ ID NO: 1
 19 <211> LENGTH: 4041
 20 <212> TYPE: DNA
 21 <213> ORGANISM: Homo sapien
 23 <400> SEQUENCE: 1
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 26 gctgcactga actggaatta cgagtctact attcatcctt tgagtcttca tgaacatgaa 120
 28 ccagctggtg aagaggcact gaggcaaaaa cgagccgttg ccacaaaaag tcttacggct 180
 30 gaagaataca ctgttaatat tgagatcagt ttgtaaaatg catccttctt ggatcctatc 240
 32 aaagcctact tgaacagcct cagttttcca attcatggga ataacactga ccaaattact 300
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 36 tcttgcgaga caggttatgg gtggcctcgg gaaagggtgc ttcacaatct catttgtcaa 420
 38 gagcgtgacg tcttctctcc agggcaccat tgcagttgcc ttaaagaact gcctcccaat 480
 40 ggaccttttt gcctgcttca ggaagatggt accctgaaca tgagagtcag actaaatgta 540
 42 ggctttcaag aagacctcat gaacacttcc tccgccctct atagggtccta caagaccgac 600
 44 ttggaaacag cgttccggaa gggttacgga attttaccag gcttcaaggg cgtgactgtg 660
 46 acagggttca agtctggaag tgtggttgtg acatatgaag tcaagactac accaccatca 720
 48 cttgagttaa tacataaagc caatgaacaa gttgtacaga gcctcaatca gacctacaaa 780
 50 atggactaca actcctttca agcagttact atcaatgaaa gcaatttctt tgtcacacca 840
 52 gaaatcatct ttgaagggga cacagtcagt ctggtgtgtg aaaaggaagt tttgtcctcc 900
 54 aatgtgtctt ggcgctatga agaacagcag ttggaaatcc agaacagcag cagattctcg 960
 56 atttacaccg cacttttcaa caacatgact tgggtgtcca agctcaccat ccacaacatc 1020
 58 actccaggtg atgcaggtga atatgtttgc aaactgatag tagacatttt tgaatatgag 1080
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 62 atgtgcgaca acaatcctgt atctttgaac tgcctgcagtc agggtaatgt taattggagc 1200
 64 aaagtagaat ggaagcagga aggaaaaata aatattccag gaaccctga gacagacata 1260
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 68 tctggaacaa cagtcactta cacttgtgag ttcattcagt cctatggagc cagaggcagt 1380
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 72 tctgtttctg agggacaaaa cttttctata aaatgcata gtgatgtgag taactatgat 1500
 74 gaggtttatt ggaacacttc tgctggaatt aaaatatacc aaagatttta taccacgagg 1560
 76 aggtatcttg atggagcaga atcagtactg acagtcaaga cctcgaccag ggagtggaaat 1620

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78 ggaacctatc actgcatatt tagatataag aattcataca gtattgcaac caaagacgtc 1680
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82 tcatgcagtg gttcccatca catcaagtgc tgcatagagg aggatggaga ctacaaagtt 1800
84 actttccata tgggttcctc atcccttctc gctgcaaaag aagttaacaa aaaacaagt 1860
86 tgctacaaac acaatttcaa tgcaagctca gtttcctggg gttcaaaaac tgttgatgtg 1920
88 tgttgctact ttaccaatgc tgctaataat tcagtttggg gcccatctat gaagctgaat 1980
90 ctggttcctg gggaaaacat cacatgccag gatcccgtaa taggtgtcgg agagccgggg 2040
92 aaagtcattc agaagctatg ccggttctca aacgttccca gcagccctga gaggccatt 2100
94 ggccggacca tcacttataa atgtgtaggc tcccagtgagg aggagaagag aatgactgc 2160
96 atctctgccc caataaacag tctgctccag atggctaagg ctttgatcaa gagccctct 2220
98 caggatgaga tgctccctac atacctgaag gatctttcta ttagcataga caaagcggaa 2280
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106 cagagttcac agctactaca ttcagtggaa agattttccc aagcattaca gtcaggagat 2520
108 agccctcctt tgccttctc ccaaactaat gtgcagatga gcagcacggg aatcaagtc 2580
110 agccaccag aaacctatca acagagggtt gttttcccat actttgacct ctggggcaat 2640
112 gtggtcattg acaagagcta tctagaaaac ttgcagtcgg attcgtctat tgcaccatg 2700
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116 agcttagtga tgacaaccac tgtcagccac aatacgacta tgccattcag gatttcaatg 2820
118 acttttaaga acaatagccc ttcaggcggc gaaacgaagt gtgtctctg gaacttcagg 2880
120 cttgccaaac acacaggggg gtgggacagc agtgggtgct atggtgaaga aggtgatggg 2940
122 gacaaatgta cctgtatctg tgaccaccta acatcattct ccacctcat gtcccctgac 3000
124 tcccagatc ctagttctct cctgggaata ctccctggata ttatttctta tgttggggtg 3060
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128 gtgaccaaga atcggaactt ttatatgcgc cacacctgca tagtgaatat cgctgcctcc 3180
130 cttctgggtg ccaacacctg gttcattgtg tgcgtgcca tccaggacaa tcgctacata 3240
132 ctctgcaaga cagcctgtgt ggctgccacc ttcttcatcc acttcttcta cctcagcgtc 3300
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136 gaaacaagca ggtccactca gaaagccatt gccttctgtc ttggctatgg ctgcccactt 3420
138 gccatctcgg tcatcacgct gggagccacc cagccccggg aagctctatac gaggaagaat 3480
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142 atcattgtgg tgggtgaacat aacctcact attgtggtca tcaccaagat cctgaggcct 3600
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148 ccagggaacca acctgtgtgt ccatatcata tttgccatcc tcaatgtctt ccagggatta 3780
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154 cctgtgtttt ctatgagttc tccaatatca aggagattta acaatttgtt tggtaaaaca 3960
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158 gcttcttctg tgcactaact a
4041
161 <210> SEQ ID NO: 2
162 <211> LENGTH: 1346
163 <212> TYPE: PRT
164 <213> ORGANISM: Homo sapien
166 <220> FEATURE:
168 <221> NAME/KEY: VARIANT
169 <222> LOCATION: 604
170 <223> OTHER INFORMATION: Polymorphic amino acid Met or Thr

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DATE: 01/04/2006

PATENT APPLICATION: US/10/561,132

TIME: 12:51:37

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\01042006\J561132.raw

172 <221> NAME/KEY: VARIANT

173 <222> LOCATION: 801

174 <223> OTHER INFORMATION: Polymorphic amino acid Val or Ile

W--> 176 <221> VARIANT

177 <222> LOCATION: 856

178 <223> OTHER INFORMATION: Polymorphic amino acid Thr or Met

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182 Met Lys Ser Pro Arg Arg Thr Thr Leu Cys Leu Met Phe Ile Val Ile

183 1 5 10 15

186 Tyr Ser Ser Lys Ala Ala Leu Asn Trp Asn Tyr Glu Ser Thr Ile His

187 20 25 30

190 Pro Leu Ser Leu His Glu His Glu Pro Ala Gly Glu Glu Ala Leu Arg

191 35 40 45

194 Gln Lys Arg Ala Val Ala Thr Lys Ser Pro Thr Ala Glu Glu Tyr Thr

195 50 55 60

198 Val Asn Ile Glu Ile Ser Phe Glu Asn Ala Ser Phe Leu Asp Pro Ile

199 65 70 75 80

202 Lys Ala Tyr Leu Asn Ser Leu Ser Phe Pro Ile His Gly Asn Asn Thr

203 85 90 95

206 Asp Gln Ile Thr Asp Ile Leu Ser Ile Asn Val Thr Thr Val Cys Arg

207 100 105 110

210 Pro Ala Gly Asn Glu Ile Trp Cys Ser Cys Glu Thr Gly Tyr Gly Trp

211 115 120 125

214 Pro Arg Glu Arg Cys Leu His Asn Leu Ile Cys Gln Glu Arg Asp Val

215 130 135 140

218 Phe Leu Pro Gly His His Cys Ser Cys Leu Lys Glu Leu Pro Pro Asn

219 145 150 155 160

222 Gly Pro Phe Cys Leu Leu Gln Glu Asp Val Thr Leu Asn Met Arg Val

223 165 170 175

226 Arg Leu Asn Val Gly Phe Gln Glu Asp Leu Met Asn Thr Ser Ser Ala

227 180 185 190

230 Leu Tyr Arg Ser Tyr Lys Thr Asp Leu Glu Thr Ala Phe Arg Lys Gly

231 195 200 205

234 Tyr Gly Ile Leu Pro Gly Phe Lys Gly Val Thr Val Thr Gly Phe Lys

235 210 215 220

238 Ser Gly Ser Val Val Val Thr Tyr Glu Val Lys Thr Thr Pro Pro Ser

239 225 230 235 240

242 Leu Glu Leu Ile His Lys Ala Asn Glu Gln Val Val Gln Ser Leu Asn

243 245 250 255

246 Gln Thr Tyr Lys Met Asp Tyr Asn Ser Phe Gln Ala Val Thr Ile Asn

247 260 265 270

250 Glu Ser Asn Phe Phe Val Thr Pro Glu Ile Ile Phe Glu Gly Asp Thr

251 275 280 285

254 Val Ser Leu Val Cys Glu Lys Glu Val Leu Ser Ser Asn Val Ser Trp

255 290 295 300

258 Arg Tyr Glu Glu Gln Gln Leu Glu Ile Gln Asn Ser Ser Arg Phe Ser

259 305 310 315 320

262 Ile Tyr Thr Ala Leu Phe Asn Asn Met Thr Ser Val Ser Lys Leu Thr

263 325 330 335

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/561,132

DATE: 01/04/2006

TIME: 12:51:37

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\01042006\J561132.raw

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266 Ile His Asn Ile Thr Pro Gly Asp Ala Gly Glu Tyr Val Cys Lys Leu
267           340           345           350
270 Ile Leu Asp Ile Phe Glu Tyr Glu Cys Lys Lys Lys Ile Asp Val Met
271           355           360           365
274 Pro Ile Gln Ile Leu Ala Asn Glu Glu Met Lys Val Met Cys Asp Asn
275           370           375           380
278 Asn Pro Val Ser Leu Asn Cys Cys Ser Gln Gly Asn Val Asn Trp Ser
279 385           390           395           400
282 Lys Val Glu Trp Lys Gln Glu Gly Lys Ile Asn Ile Pro Gly Thr Pro
283           405           410           415
286 Glu Thr Asp Ile Asp Ser Ser Cys Ser Arg Tyr Thr Leu Lys Ala Asp
287           420           425           430
290 Gly Thr Gln Cys Pro Ser Gly Ser Ser Gly Thr Thr Val Ile Tyr Thr
291           435           440           445
294 Cys Glu Phe Ile Ser Ala Tyr Gly Ala Arg Gly Ser Ala Asn Ile Lys
295           450           455           460
298 Val Thr Phe Ile Ser Val Ala Asn Leu Thr Ile Thr Pro Asp Pro Ile
299 465           470           475           480
302 Ser Val Ser Glu Gly Gln Asn Phe Ser Ile Lys Cys Ile Ser Asp Val
303           485           490           495
306 Ser Asn Tyr Asp Glu Val Tyr Trp Asn Thr Ser Ala Gly Ile Lys Ile
307           500           505           510
310 Tyr Gln Arg Phe Tyr Thr Thr Arg Tyr Leu Asp Gly Ala Glu Ser
311           515           520           525
314 Val Leu Thr Val Lys Thr Ser Thr Arg Glu Trp Asn Gly Thr Tyr His
315           530           535           540
318 Cys Ile Phe Arg Tyr Lys Asn Ser Tyr Ser Ile Ala Thr Lys Asp Val
319 545           550           555           560
322 Ile Val His Pro Leu Pro Leu Lys Leu Asn Ile Met Val Asp Pro Leu
323           565           570           575
326 Glu Ala Thr Val Ser Cys Ser Gly Ser His His Ile Lys Cys Cys Ile
327           580           585           590
330 Glu Glu Asp Gly Asp Tyr Lys Val Thr Phe His Met Gly Ser Ser Ser
331           595           600           605
334 Leu Pro Ala Ala Lys Glu Val Asn Lys Lys Gln Val Cys Tyr Lys His
335           610           615           620
338 Asn Phe Asn Ala Ser Ser Val Ser Trp Cys Ser Lys Thr Val Asp Val
339 625           630           635           640
342 Cys Cys His Phe Thr Asn Ala Ala Asn Asn Ser Val Trp Ser Pro Ser
343           645           650           655
346 Met Lys Leu Asn Leu Val Pro Gly Glu Asn Ile Thr Cys Gln Asp Pro
347           660           665           670
350 Val Ile Gly Val Gly Glu Pro Gly Lys Val Ile Gln Lys Leu Cys Arg
351           675           680           685
354 Phe Ser Asn Val Pro Ser Ser Pro Glu Ser Pro Ile Gly Gly Thr Ile
355           690           695           700
358 Thr Tyr Lys Cys Val Gly Ser Gln Trp Glu Glu Lys Arg Asn Asp Cys
359 705           710           715           720
362 Ile Ser Ala Pro Ile Asn Ser Leu Leu Gln Met Ala Lys Ala Leu Ile

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PATENT APPLICATION: US/10/561,132

DATE: 01/04/2006

TIME: 12:51:37

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\01042006\J561132.raw

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363          725          730          735
366 Lys Ser Pro Ser Gln Asp Glu Met Leu Pro Thr Tyr Leu Lys Asp Leu
367          740          745          750
370 Ser Ile Ser Ile Asp Lys Ala Glu His Glu Ile Ser Ser Pro Gly
371          755          760          765
374 Ser Leu Gly Ala Ile Ile Asn Ile Leu Asp Leu Leu Ser Thr Val Pro
375          770          775          780
378 Thr Gln Val Asn Ser Glu Met Met Thr His Val Leu Ser Thr Val Asn
379 785          790          795          800
382 Val Ile Leu Gly Lys Pro Val Leu Asn Thr Trp Lys Val Leu Gln Gln
383          805          810          815
386 Gln Trp Thr Asn Gln Ser Ser Gln Leu Leu His Ser Val Glu Arg Phe
387          820          825          830
390 Ser Gln Ala Leu Gln Ser Gly Asp Ser Pro Pro Leu Ser Phe Ser Gln
391          835          840          845
394 Thr Asn Val Gln Met Ser Ser Thr Val Ile Lys Ser Ser His Pro Glu
395          850          855          860
398 Thr Tyr Gln Gln Arg Phe Val Phe Pro Tyr Phe Asp Leu Trp Gly Asn
399 865          870          875          880
402 Val Val Ile Asp Lys Ser Tyr Leu Glu Asn Leu Gln Ser Asp Ser Ser
403          885          890          895
406 Ile Val Thr Met Ala Phe Pro Thr Leu Gln Ala Ile Leu Ala Gln Asp
407          900          905          910
410 Ile Gln Glu Asn Asn Phe Ala Glu Ser Leu Val Met Thr Thr Thr Val
411          915          920          925
414 Ser His Asn Thr Thr Met Pro Phe Arg Ile Ser Met Thr Phe Lys Asn
415          930          935          940
418 Asn Ser Pro Ser Gly Gly Glu Thr Lys Cys Val Phe Trp Asn Phe Arg
419 945          950          955          960
422 Leu Ala Asn Asn Thr Gly Gly Trp Asp Ser Ser Gly Cys Tyr Val Glu
423          965          970          975
426 Glu Gly Asp Gly Asp Asn Val Thr Cys Ile Cys Asp His Leu Thr Ser
427          980          985          990
430 Phe Ser Ile Leu Met Ser Pro Asp Ser Pro Asp Pro Ser Ser Leu Leu
431          995          1000          1005
434 Gly Ile Leu Leu Asp Ile Ile Ser Tyr Val Gly Val Gly Phe Ser
435          1010          1015          1020
438 Ile Leu Ser Leu Ala Ala Cys Leu Val Val Glu Ala Val Val Trp
439          1025          1030          1035
442 Lys Ser Val Thr Lys Asn Arg Thr Ser Tyr Met Arg His Thr Cys
443          1040          1045          1050
446 Ile Val Asn Ile Ala Ala Ser Leu Leu Val Ala Asn Thr Trp Phe
447          1055          1060          1065
450 Ile Val Val Ala Ala Ile Gln Asp Asn Arg Tyr Ile Leu Cys Lys
451          1070          1075          1080
454 Thr Ala Cys Val Ala Ala Thr Phe Phe Ile His Phe Phe Tyr Leu
455          1085          1090          1095
458 Ser Val Phe Phe Trp Met Leu Thr Leu Gly Leu Met Leu Phe Tyr
459          1100          1105          1110

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RAW SEQUENCE LISTING ERROR SUMMARY

DATE: 01/04/2006

PATENT APPLICATION: US/10/561,132

TIME: 12:51:38

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\01042006\J561132.raw

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:7,8,9,10,11,12

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/561,132

DATE: 01/04/2006

TIME: 12:51:38

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\01042006\J561132.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:176 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:180 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2

Raw Sequence Listing before editing,
for reference only



JFWP

RAW SEQUENCE LISTING

DATE: 12/30/2005

PATENT APPLICATION: US/10/561,132

TIME: 09:22:52

Input Set : A:\60.US2.PCT.txt

Output Set: N:\CRF4\12302005\J561132.raw

3 <110> APPLICANT: Adams, John W
 4 Connolly, Daniel T
 6 <120> TITLE OF INVENTION: Human G Protein-Coupled Receptor and Modulators Thereof For
 the
 7 Treatment of Cardiovascular Disorders
 9 <130> FILE REFERENCE: 60.US2.PCT
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/561,132
 C--> 11 <141> CURRENT FILING DATE: 2005-12-16
 11 <150> PRIOR APPLICATION NUMBER: 60/480,046
 12 <151> PRIOR FILING DATE: 2003-06-20
 14 <160> NUMBER OF SEQ ID NOS: 12
 16 <170> SOFTWARE: PatentIn version 3.2

Does Not Comply
 Corrected Diskette Needed
 CP9-1)

ERRORED SEQUENCES

161 <210> SEQ ID NO: 2
 162 <211> LENGTH: 1346
 163 <212> TYPE: PRT
 164 <213> ORGANISM: Homo sapien *Inserted 2207*
 166 <221> NAME/KEY: VARIANT
 167 <222> LOCATION: 604
 168 <223> OTHER INFORMATION: Polymorphic amino acid Met or Thr
 W--> 170 <221> VARIANT
 171 <222> LOCATION: 801
 172 <223> OTHER INFORMATION: Polymorphic amino acid Val or Ile
 W--> 174 <221> VARIANT
 175 <222> LOCATION: 856
 176 <223> OTHER INFORMATION: Polymorphic amino acid Thr or Met
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 185 20 25 30
 188 Pro Leu Ser Leu His Glu His Glu Pro Ala Gly Glu Glu Ala Leu Arg
 189 35 40 45
 192 Gln Lys Arg Ala Val Ala Thr Lys Ser Pro Thr Ala Glu Glu Tyr Thr
 193 50 55 60
 196 Val Asn Ile Glu Ile Ser Phe Glu Asn Ala Ser Phe Leu Asp Pro Ile
 197 65 70 75 80
 200 Lys Ala Tyr Leu Asn Ser Leu Ser Phe Pro Ile His Gly Asn Asn Thr
 201 85 90 95
 204 Asp Gln Ile Thr Asp Ile Leu Ser Ile Asn Val Thr Thr Val Cys Arg
 205 100 105 110

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208 Pro Ala Gly Asn Glu Ile Trp Cys Ser Cys Glu Thr Gly Tyr Gly Trp
209      115      120      125
212 Pro Arg Glu Arg Cys Leu His Asn Leu Ile Cys Gln Glu Arg Asp Val
213      130      135      140
216 Phe Leu Pro Gly His His Cys Ser Cys Leu Lys Glu Leu Pro Pro Asn
217 145      150      155      160
220 Gly Pro Phe Cys Leu Leu Gln Glu Asp Val Thr Leu Asn Met Arg Val
221      165      170      175
224 Arg Leu Asn Val Gly Phe Gln Glu Asp Leu Met Asn Thr Ser Ser Ala
225      180      185      190
228 Leu Tyr Arg Ser Tyr Lys Thr Asp Leu Glu Thr Ala Phe Arg Lys Gly
229      195      200      205
232 Tyr Gly Ile Leu Pro Gly Phe Lys Gly Val Thr Val Thr Gly Phe Lys
233      210      215      220
236 Ser Gly Ser Val Val Val Thr Tyr Glu Val Lys Thr Thr Pro Pro Ser
237 225      230      235      240
240 Leu Glu Leu Ile His Lys Ala Asn Glu Gln Val Val Gln Ser Leu Asn
241      245      250      255
244 Gln Thr Tyr Lys Met Asp Tyr Asn Ser Phe Gln Ala Val Thr Ile Asn
245      260      265      270
248 Glu Ser Asn Phe Phe Val Thr Pro Glu Ile Ile Phe Glu Gly Asp Thr
249      275      280      285
252 Val Ser Leu Val Cys Glu Lys Glu Val Leu Ser Ser Asn Val Ser Trp
253      290      295      300
256 Arg Tyr Glu Glu Gln Gln Leu Glu Ile Gln Asn Ser Ser Arg Phe Ser
257 305      310      315      320
260 Ile Tyr Thr Ala Leu Phe Asn Asn Met Thr Ser Val Ser Lys Leu Thr
261      325      330      335
264 Ile His Asn Ile Thr Pro Gly Asp Ala Gly Glu Tyr Val Cys Lys Leu
265      340      345      350
268 Ile Leu Asp Ile Phe Glu Tyr Glu Cys Lys Lys Lys Ile Asp Val Met
269      355      360      365
272 Pro Ile Gln Ile Leu Ala Asn Glu Glu Met Lys Val Met Cys Asp Asn
273      370      375      380
276 Asn Pro Val Ser Leu Asn Cys Cys Ser Gln Gly Asn Val Asn Trp Ser
277 385      390      395      400
280 Lys Val Glu Trp Lys Gln Glu Gly Lys Ile Asn Ile Pro Gly Thr Pro
281      405      410      415
284 Glu Thr Asp Ile Asp Ser Ser Cys Ser Arg Tyr Thr Leu Lys Ala Asp
285      420      425      430
288 Gly Thr Gln Cys Pro Ser Gly Ser Ser Gly Thr Thr Val Ile Tyr Thr
289      435      440      445
292 Cys Glu Phe Ile Ser Ala Tyr Gly Ala Arg Gly Ser Ala Asn Ile Lys
293      450      455      460
296 Val Thr Phe Ile Ser Val Ala Asn Leu Thr Ile Thr Pro Asp Pro Ile
297 465      470      475      480
300 Ser Val Ser Glu Gly Gln Asn Phe Ser Ile Lys Cys Ile Ser Asp Val
301      485      490      495
304 Ser Asn Tyr Asp Glu Val Tyr Trp Asn Thr Ser Ala Gly Ile Lys Ile

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Input Set : A:\60.US2.PCT.txt

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305          500          505          510
308 Tyr Gln Arg Phe Tyr Thr Thr Arg Arg Tyr Leu Asp Gly Ala Glu Ser
309          515          520          525
312 Val Leu Thr Val Lys Thr Ser Thr Arg Glu Trp Asn Gly Thr Tyr His
313          530          535          540
316 Cys Ile Phe Arg Tyr Lys Asn Ser Tyr Ser Ile Ala Thr Lys Asp Val
317 545          550          555          560
320 Ile Val His Pro Leu Pro Leu Lys Leu Asn Ile Met Val Asp Pro Leu
321          565          570          575
324 Glu Ala Thr Val Ser Cys Ser Gly Ser His His Ile Lys Cys Cys Ile
325          580          585          590
328 Glu Glu Asp Gly Asp Tyr Lys Val Thr Phe His Met Gly Ser Ser Ser
329          595          600          605
332 Leu Pro Ala Ala Lys Glu Val Asn Lys Lys Gln Val Cys Tyr Lys His
333          610          615          620
336 Asn Phe Asn Ala Ser Ser Val Ser Trp Cys Ser Lys Thr Val Asp Val
337 625          630          635          640
340 Cys Cys His Phe Thr Asn Ala Ala Asn Asn Ser Val Trp Ser Pro Ser
341          645          650          655
344 Met Lys Leu Asn Leu Val Pro Gly Glu Asn Ile Thr Cys Gln Asp Pro
345          660          665          670
348 Val Ile Gly Val Gly Glu Pro Gly Lys Val Ile Gln Lys Leu Cys Arg
349          675          680          685
352 Phe Ser Asn Val Pro Ser Ser Pro Glu Ser Pro Ile Gly Gly Thr Ile
353          690          695          700
356 Thr Tyr Lys Cys Val Gly Ser Gln Trp Glu Glu Lys Arg Asn Asp Cys
357 705          710          715          720
360 Ile Ser Ala Pro Ile Asn Ser Leu Leu Gln Met Ala Lys Ala Leu Ile
361          725          730          735
364 Lys Ser Pro Ser Gln Asp Glu Met Leu Pro Thr Tyr Leu Lys Asp Leu
365          740          745          750
368 Ser Ile Ser Ile Asp Lys Ala Glu His Glu Ile Ser Ser Ser Pro Gly
369          755          760          765
372 Ser Leu Gly Ala Ile Ile Asn Ile Leu Asp Leu Leu Ser Thr Val Pro
373          770          775          780
376 Thr Gln Val Asn Ser Glu Met Met Thr His Val Leu Ser Thr Val Asn
377 785          790          795          800
380 Val Ile Leu Gly Lys Pro Val Leu Asn Thr Trp Lys Val Leu Gln Gln
381          805          810          815
384 Gln Trp Thr Asn Gln Ser Ser Gln Leu Leu His Ser Val Glu Arg Phe
385          820          825          830
388 Ser Gln Ala Leu Gln Ser Gly Asp Ser Pro Pro Leu Ser Phe Ser Gln
389          835          840          845
392 Thr Asn Val Gln Met Ser Ser Thr Val Ile Lys Ser Ser His Pro Glu
393          850          855          860
396 Thr Tyr Gln Gln Arg Phe Val Phe Pro Tyr Phe Asp Leu Trp Gly Asn
397 865          870          875          880
400 Val Val Ile Asp Lys Ser Tyr Leu Glu Asn Leu Gln Ser Asp Ser Ser
401          885          890          895

```

RAW SEQUENCE LISTING

DATE: 12/30/2005

PATENT APPLICATION: US/10/561,132

TIME: 09:22:52

Input Set : A:\60.US2.PCT.txt

Output Set: N:\CRF4\12302005\J561132.raw

```

404 Ile Val Thr Met Ala Phe Pro Thr Leu Gln Ala Ile Leu Ala Gln Asp
405           900           905           910
408 Ile Gln Glu Asn Asn Phe Ala Glu Ser Leu Val Met Thr Thr Thr Val
409           915           920           925
412 Ser His Asn Thr Thr Met Pro Phe Arg Ile Ser Met Thr Phe Lys Asn
413           930           935           940
416 Asn Ser Pro Ser Gly Gly Glu Thr Lys Cys Val Phe Trp Asn Phe Arg
417 945           950           955           960
420 Leu Ala Asn Asn Thr Gly Gly Trp Asp Ser Ser Gly Cys Tyr Val Glu
421           965           970           975
424 Glu Gly Asp Gly Asp Asn Val Thr Cys Ile Cys Asp His Leu Thr Ser
425           980           985           990
428 Phe Ser Ile Leu Met Ser Pro Asp Ser Pro Asp Pro Ser Ser Leu Leu
429           995           1000           1005
432 Gly Ile Leu Leu Asp Ile Ile Ser Tyr Val Gly Val Gly Phe Ser
433       1010           1015           1020
436 Ile Leu Ser Leu Ala Ala Cys Leu Val Val Glu Ala Val Val Trp
437       1025           1030           1035
440 Lys Ser Val Thr Lys Asn Arg Thr Ser Tyr Met Arg His Thr Cys
441       1040           1045           1050
444 Ile Val Asn Ile Ala Ala Ser Leu Leu Val Ala Asn Thr Trp Phe
445       1055           1060           1065
448 Ile Val Val Ala Ala Ile Gln Asp Asn Arg Tyr Ile Leu Cys Lys
449       1070           1075           1080
452 Thr Ala Cys Val Ala Ala Thr Phe Phe Ile His Phe Phe Tyr Leu
453       1085           1090           1095
456 Ser Val Phe Phe Trp Met Leu Thr Leu Gly Leu Met Leu Phe Tyr
457       1100           1105           1110
460 Arg Leu Val Phe Ile Leu His Glu Thr Ser Arg Ser Thr Gln Lys
461       1115           1120           1125
464 Ala Ile Ala Phe Cys Leu Gly Tyr Gly Cys Pro Leu Ala Ile Ser
465       1130           1135           1140
468 Val Ile Thr Leu Gly Ala Thr Gln Pro Arg Glu Val Tyr Thr Arg
469       1145           1150           1155
472 Lys Asn Val Cys Trp Leu Asn Trp Glu Asp Thr Lys Ala Leu Leu
473       1160           1165           1170
476 Ala Phe Ala Ile Pro Ala Leu Ile Ile Val Val Val Asn Ile Thr
477       1175           1180           1185
480 Ile Thr Ile Val Val Ile Thr Lys Ile Leu Arg Pro Ser Ile Gly
481       1190           1195           1200
484 Asp Lys Pro Cys Lys Gln Glu Lys Ser Ser Leu Phe Gln Ile Ser
485       1205           1210           1215
488 Lys Ser Ile Gly Val Leu Thr Pro Leu Leu Gly Leu Thr Trp Gly
489       1220           1225           1230
492 Phe Gly Leu Thr Thr Val Phe Pro Gly Thr Asn Leu Val Phe His
493       1235           1240           1245
496 Ile Ile Phe Ala Ile Leu Asn Val Phe Gln Gly Leu Phe Ile Leu
497       1250           1255           1260
500 Leu Phe Gly Cys Leu Trp Asp Leu Lys Val Gln Glu Ala Leu Leu

```

RAW SEQUENCE LISTING

DATE: 12/30/2005

PATENT APPLICATION: US/10/561,132

TIME: 09:22:52

Input Set : A:\60.US2.PCT.txt

Output Set: N:\CRF4\12302005\J561132.raw

501	1265	1270	1275
504	Asn Lys Phe Ser Leu Ser Arg Trp Ser Ser Gln His Ser Lys Ser		
505	1280	1285	1290
508	Thr Ser Leu Gly Ser Ser Thr Pro Val Phe Ser Met Ser Ser Pro		
509	1295	1300	1305
512	Ile Ser Arg Arg Phe Asn Asn Leu Phe Gly Lys Thr Gly Thr Tyr		
513	1310	1315	1320
516	Asn Val Ser Thr Pro Glu Ala Thr Ser Ser Ser Leu Glu Asn Ser		
517	1325	1330	1335
520	Ser Ser Ala Ser Ser Leu Leu Asn		
521	1340	1345	

RAW SEQUENCE LISTING ERROR SUMMARY

DATE: 12/30/2005

PATENT APPLICATION: US/10/561,132

TIME: 09:22:53

Input Set : A:\60.US2.PCT.txt

Output Set: N:\CRF4\12302005\J561132.raw

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#: 7, 8, 9, 10, 11, 12

VERIFICATION SUMMARY

DATE: 12/30/2005

PATENT APPLICATION: US/10/561,132

TIME: 09:22:53

Input Set : A:\60.US2.PCT.txt

Output Set: N:\CRF4\12302005\J561132.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:170 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:174 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:178 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:2
L:178 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2